



# Material Safety Data Sheet

Page 1 of 5

Infosafe No. NU0G3 Issue Date : October 2005 ISSUED by NUFARM

Product Name : NUGREX Selective Herbicide

Classified as hazardous according to criteria of NOHSC

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

**Product Name** NUGREX Selective Herbicide  
**Product Code** 0575  
**Product Use** For the control of certain broadleaf weeds in winter cereals and clover as specified in the Directions for Use table on the label.  
**Company Name** NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)  
**Address** 103-105 Pipe Road Laverton North  
Victoria 3026 Australia  
**Emergency Tel.** 24hr 1800 033 498  
**Telephone Number/Fax** Tel: (03) 9282-1000 Fax: (03) 9282-1001  
**Product Type** Group F I Herbicide  
**Other Information** This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Characterization** Liquid

<b>Ingredients</b>	<b>Name</b>	<b>CAS</b>	<b>Proportion</b>
	N-Methyl-2-pyrrolidone	872-50-4	150 g/L
	Diflufenican	83164-33-4	25 g/L
	Liquid Hydrocarbons	90438-79-2	325 g/L
	MCPA present as the ethyl hexyl ester	29450-45-1	250 g/L
	Other ingredients (considered non-hazardous)		10-30 %

## 3. HAZARDS IDENTIFICATION

Harmful if swallowed.  
Irritating to eyes.  
May cause sensitization by skin contact.

**Other Information** Poisons Schedule S5

## 4. FIRST AID MEASURES

**Inhalation** Remove affected person to fresh air until recovered.  
If symptoms develop or persist, seek medical advice.

**Ingestion** Rinse mouth and then drink plenty of water.  
If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

**Skin** Wash affected areas thoroughly with soap and water.  
Remove contaminated clothing and launder before re-use.

**Eye** If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.  
Seek medical advice immediately.

**First Aid Facilities** If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26 (Australia).

**Advice to Doctor** Treat symptomatically.  
If vomiting occurs, solvent present may cause pulmonary pneumonitis.

Infosafe No.	NU0G3	Issue Date : October 2005	ISSUED by NUFARM
--------------	-------	---------------------------	------------------

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## 5. FIRE FIGHTING MEASURES

**Extinguishing Media** Water fog, foam, carbon dioxide or dry chemical.  
Avoid using large volumes of water which would spread the product.

**Hazardous Combustion Products** If involved in a fire, it will emit oxides of carbon, oxides of nitrogen and possibly hydrogen flouride or phosgene.

**Protective Equipment** Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.

**Other Information** Prevent fire water from entering drains or water bodies.

## 6. ACCIDENTAL RELEASE MEASURES

**Spills & Disposal** Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).  
Collect spilled material and waste in sealable open-top type containers for disposal.  
On-site disposal of concentrate is not acceptable.

**Personal Protection** For appropriate personal protective equipment (PPE), refer Section 8.

**Environmental Precautions** This product is a herbicide and spills can damage crops, pastures and desirable vegetation.  
Use earthen bunds or absorbent bunding to prevent spreading of spillage.  
Prevent from entering drains, waterways or sewers.

**Clean-up Methods - Large Spillages** Place damaged containers in recovery bins (if available) and return to manufacturer.  
If large liquid spills occur, attempt to recover as much spilt material from sumps and banded areas before absorbing remaining material into vermiculite or other absorbent.

## 7. HANDLING AND STORAGE

**Storage** Store in the closed, original container in a cool, well ventilated area.  
Do not store for prolonged periods in direct sunlight.

**Unsuitable Materials** Rubber components present in some spraying units may be affected by exposure to the solvents in Nugrex. Wash spray unit thoroughly with boom cleaner and fresh water after use.

**Other Information** Do not use on or in situations where damage to susceptible crops or plants such as cotton, tobacco, tomatoes, flowers, vines, fruit trees or other susceptible crop plants may result from direct application or drift.  
Sprayed weeds may become more palatable to stock and a higher intake of some weeds may result in stock poisoning and death from causes such as nitrate poisoning. Care should be taken especially where capeweed, Paterson's curse and variegated thistles predominate in the pasture.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**National Exposure Standards** No exposure standard has been established for this product. The manufacturer of the solvent has recommended an occupational exposure limit of 323 mg/m<sup>3</sup>; 60 ppm TWA, as total hydrocarbon.  
Permissible Exposure Level (PEL) for diflufenican recommended by the manufacturer is 2.3 mg/m<sup>3</sup>.  
NOHSC has set the following exposure standard for N-methyl pyrrolidone : TLV (TWA) 103 mg/m<sup>3</sup>, STEL 309 mg/m<sup>3</sup>. SK  
'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

**Personal Protective Equipment** When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.

**Eng. Controls** Handle in well ventilated areas, generally natural ventilation is adequate.

**Hygiene Measures** After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.  
After each day's use, wash contaminated clothing and safety equipment.

Infosafe No.	NU0G3	Issue Date : October 2005	ISSUED by NUFARM
--------------	-------	---------------------------	------------------

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<b>Requirements Concerning Special Training</b>	NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials. By 1st September, 2005 all users must have received such training.
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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Clear, dark brown liquid
<b>Odour</b>	Distinctive strong ester odour
<b>Melting Point</b>	<0°C
<b>Boiling Point</b>	between 176 - 200°C (solvent)
<b>Solubility in Water</b>	Forms an emulsion in water.
<b>Specific Gravity (H2O=1)</b>	0.995g/mL at 20°C
<b>Vapour Pressure</b>	1.77 mPa for MCPA 2EHE @ 25°C; 4.25 x 10 <sup>-3</sup> mPa for diflufenican @ 25°C
<b>Partition co-efficient, n-octanol/water</b>	Kow Log P is 5.37 for MCPA 2EHE; 4.9 for diflufenican
<b>Flash Point</b>	>70°C
<b>Flammability</b>	Combustible liquid C1.
<b>Flammable Limits LEL</b>	0.8 for solvent
<b>Flammable Limits UEL</b>	6.7% for solvent

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Hazardous Polymerization</b>	Hazardous polymerisation is not possible.
<b>Materials to Avoid</b>	Avoid contact with rubber.
<b>Hazardous Reaction</b>	Keep away from strong oxidising agents. May react exothermically with strong alkalis and acids.

## 11. TOXICOLOGICAL INFORMATION

<b>Toxicology Information</b>	No harmful effects are expected if the precautions on the label and this MSDS are followed.
<b>Inhalation</b>	May cause irritation to mucous membranes.
<b>Ingestion</b>	Possible symptoms of exposure include: nausea, vomiting and gastrointestinal discomfort and diarrhoea.
<b>Skin</b>	Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis. Symptoms of over exposure may be similar to those described for ingestion.
<b>Eye</b>	The concentrate will cause irritation of the eyes.
<b>Chronic Effects</b>	Chronic Overexposure: Weight loss and damage to liver and kidneys may be expected if exposure is excessive.
<b>Reproductive Toxicity</b>	Data indicates no reproductive effects.
<b>Mutagenicity</b>	Data indicates no mutagenic effects.
<b>Acute Toxicity - Oral</b>	LD50 (rat) 1580 mg/kg for the formulated product
<b>Acute Toxicity - Dermal</b>	LD50 (rat) >2040 mg/kg for the formulated product
<b>Acute Toxicity - Inhalation</b>	LC50 (rat) (4hr) >3.139 mg/l for MCPA 2EHE LC50 (rat) (4hr) 2.34 mg/l for diflufenican
<b>Eye Irritation</b>	The product is an eye irritant.

Infosafe No.	NU0G3	Issue Date : October 2005	ISSUED by NUFARM
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<b>Skin Irritation</b>	Not a skin irritant.
<b>Skin Sensitisation</b>	Prolonged and repeated skin contact may result in skin sensitisation.
<b>Other Information</b>	The Australian Acceptable Daily Intake (ADI) for MCPA for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, December 2004). ADI for diflufenican is 0.2 mg/kg/day, NOEL 16.3 mg/kg/day.

## 12. ECOLOGICAL INFORMATION

<b>Other Precautions</b>	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
<b>Environ. Protection</b>	Spray drift can cause damage, read the label for more information.
<b>Persistence / Degradability</b>	Average field half life of MCPA 2EHE is 24 days. Average field half life of diflufenican is 100 - 200 days.
<b>Acute Toxicity - Fish</b>	LC50 (96 hr) for rainbow trout is 1.15 mg/l for MCPA 2EHE LC50 (96 hr) for rainbow trout is 56 - 100 mg/l for diflufenican
<b>Acute Toxicity - Daphnia</b>	EC50 (48 hr) for daphnia is 0.28 mg/l for MCPA 2EHE. EC50 (48 hr) for daphnia is >10 mg/l for diflufenican.
<b>Acute Toxicity - Other Organisms</b>	LD50 for quail is 377 mg/kg for MCPA 2EHE LD50 for quail is >2150 mg/kg for diflufenican Not toxic to bees.

## 13. DISPOSAL CONSIDERATIONS

<b>Product Disposal</b>	On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemCollect).
<b>Container Disposal</b>	Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and bury in an approved landfill or bury with at least 500 mm of soil cover away from pasture and crop areas, water supplies and houses. Empty containers and product should not be burnt.

## 14. TRANSPORT INFORMATION

<b>U.N. Number</b>	None Allocated
<b>Proper Shipping Name</b>	None Allocated
<b>DG Class</b>	None Allocated
<b>Hazchem Code</b>	None Allocated
<b>Packing Group</b>	None Allocated
<b>Storage and Transport</b>	Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

## 15. REGULATORY INFORMATION

<b>Risk Phrase</b>	R22 Harmful if swallowed. R36 Irritating to eyes. R43 May cause sensitization by skin contact.
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Page 5 of 5

Infosafe No. NU0G3 Issue Date : October 2005 ISSUED by NUFARM

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<b>Safety Phrase</b>	S13 Keep away from food, drink and animal feeding stuffs. S2 Keep out of reach of children. S24/25 Avoid contact with skin and eyes. S46 If swallowed, seek medical advice immediately and show this container or label.
<b>Poisons Schedule</b>	S5
<b>Packaging &amp; Labelling</b>	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
<b>Hazard Category</b>	Harmful, Irritant
<b>AICS (Australia)</b>	All of the components in this product are listed on the Australian Inventory of Chemical Substances.

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## 16. OTHER INFORMATION

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<b>Contact Person/Point</b>	Normal Hours: Mr Volker Maier After Hours: Shift Supervisor	Phone: (03) 9282 1000 Phone: 1800 033 498
<b>Revisions Highlighted</b>	The MSDS was reviewed. Minor changes were made to the information. The MSDS is now issued in a 16 header format. ...End Of MSDS...	